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AUTHOR	Talbot, Gilles L.
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ABSTRACT

With a view to understanding developmental education, this project studied 100 college students at Champlain-Saint Lawrence College (Quebec) to measure their motivations and perceptions of ability and to see how different types of students responded to assistance. Students with a learning orientation (LO), who viewed ability as derived principally from effort, were aware of their attitudes and behaviors. Goal oriented (GO) students, who saw ability as based on innate capacity rather than the result of effort, were aware that they tended to be deficient in the same variables as learning oriented students. Helping students achieve academically through peer counselors, workshops, ungraded formative feedback, and re-attributional training to "work smarter not harder" were not equally helpful to both types of students. LC students tended to make use of these resources and were motivated to examine and reflect on the learning tasks and their learning skills. GO students were less interested in examining their strategies and skills for learning. By mid-term, LO and GO students remained stable, and students' perceptions of their learning skills had not changed. GO students, unlike LO students, had not made the necessary adjustments between demands from learning tasks and modifying learning strategies. Helping empower students, especially the GOs to engage in purposeful effort, as opposed to false or avoidance effort, may require teachers to do two things: first, to re-examine the manner of assigning and justifying academic tasks; and second, to find ways of dealing with students who do not make realistic efforts to accomplish reasonably difficult tasks. Contains 23 references, 7 tables, and a study instrument and student worksheet. (JB)

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Gilles L. Talbot
Professor of Psychology
Champlain-St.Lawrence
Ste-Foy, Province of Québec, Canada G1V 4K2

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Abstract

One hundred college students completed, in the Fall of 1994, several questionnaires to measure their motivations and perceptions of ability, effort awareness and management, as well as their study skills and learning strategies. The students also completed an in-house questionnaire about their Self-Reflective Awareness for learning. Students with a learning orientation ("LO"), and who view ability as derived principally from effort, were aware of their marked attitude and behavior for: elaboration, critical thinking, effort regulation, self-regulation and time/study management. Goal oriented ("GO") students, who see ability as based on innate capacity rather than the result of effort, were aware that they tended to be deficient in the same variables as learning oriented students. Also GO students manifested test anxiety and had marked deficiencies in self-efficacy for learning and performances. LO student scores correlated positively with their intrinsic motivations and task values while GO student scores showed equally high but negative correlations on these same variables.

Helping students achieve academically with the help of peer counsellors, teacher conducted workshops, ungraded formative feedback, and re-attributional training to "work smarter not harder" were not equally helpful to both the LO and GO students. Given the weak self-efficacy for learning and performances of the GO students it was nonetheless mostly LO students who tended to make use of these resources. LO students, in keeping with an "ability-is-determined-by-effort" belief, were motivated to examine and reflect upon the learning tasks and their learning skills. GO students, in keeping with an "ability-is-innate" belief, did not manifest, or did not manifest soon enough, an interest to examine their strategies and skills necessary for learning. Instead GO students manifested attitudes, and especially behaviors, which were either incompatible with, or came too late for, constructive changes in their academic achievement. Most GO students were not likely to seek out, or accept, the help to make them work smarter over the course of one session.

Friedman 2-way analysis of variances confirmed that entry level LO and GO remained stable by mid-term. Students' perceptions of their learning and skills had not changed in spite of formative feedback that change was necessary. At mid-term the GO students, unlike the LO students, had not made the necessary adjustments between demands from learning tasks and modifying learning strategies. GO students are aware of effort and the relationship of this to their performances. It may be that the problem of effort is subjectively rather than objectively assessed by GO students. GO students may be unwilling to reveal accurate effort regulation strategies. They may be painfully aware of the difference between what they know and what they feel to be appropriate effort. In this respect, GO students, who delayed too long in making significant effort in their education, may have developed effort strategies ("false effort" or "avoidance of effort") to protect their fragile self-worth. Admittedly, this is a "cold" approach to the problem of students' failures. Such an approach appeals more to students who view achievement based on effort ("LO") rather than achievement based on innate ability ("GO"). Our criterion based educational system rewards students' efforts rather than the amount of change as in a developmental education system.

The discussion focuses on the GO and LO students' differences in anxiety and awareness of themselves as learners. Helping empower students, especially the GO's, to engage in purposeful effort, as opposed to "false" or "avoidance" effort, may require teachers to do two things: First, to re-examine the manner of assigning and justifying academic tasks; and second, to find ways of dealing with students who do not comply, with reasonable effort, to reasonably and moderately difficult tasks.

Self-Regulated Learning, Effort Awareness and Management in College Students: Are They Aware of How They Act on Learning Tasks and Their Learning Skills?[1]

Introduction: Developmental Education

Weinstein and Mayer (1986) have provided an excellent background document from which to glean the essence of developmental education which is based on "...techniques that a learner can be taught to use during learning (p.315)". The emphasis is on learning strategies and skills' development.

> ..(T)he goal of any particular learning strategy may be to affect the learner's motivational or affective state, or the way in which the learner selects, acquires, organizes, or integrates new knowledge.
>
> ...The rationale is that good teaching includes teaching students how to learn, how to remember, how to think, and how to motivate themselves.
>
> ...Helping students to develop effective ways to handle the barrage of information coming from the environment, as well as their own thinking processes, is a major goal of our educational system...
>
> Teachers enter the classroom with two distinctly different kinds of goals (1)*Goals concerning the products of learning* which focus on what students should know or be able to do as a result of learning, that is, on teaching *what* to learn. ... (2) *Goals concerning the processes of learning* which focus on techniques and strategies students can use to accomplish learning, that is, on teaching *how* to learn. (p.315)

Developmental education is an interplay between teachers and students over the content, conditional, and procedural strategies for learning. Teachers are to assist students in inventorizing, and assessing how they use their skills and strategies on the learning tasks. The assumption is that helping students helps them become self-regulated learners. There are two fundamental questions at this point: Are students aware of the task requirements? How accurate are students' perceptions of their skills and strategies relative to the task?

> ...(L)earning is viewed as an active process that occurs within the learner and which can be influenced by the learner. Instead of viewing the outcome of learning as depending mainly on what the teacher presents, the outcome of learning is supposed to depend jointly on what information is presented and how the learner processes that information (Weinstein and Mayer, 1986; p.316)

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[1] A special thank you to my colleague Chris Vandenberg, Professor of English and English Literature, for his expert editorial skills and suggestions in revising this manuscript.

Developmental education is based on a rational and cognitive approach to skills development. An implicit assumption is that the transfer of control from the teacher to the students is desired by both teacher and student. This assumption needs to be carefully examined since the role of purposeful effort is assumed to be the same for teachers and students.

Perceived Ability and Effort Regulation

We must not try to explain the behavior of all or even of most students who fail or abandon college courses. Fourteen years of Cégep research on this topic has shown that there are many contributing factors (Québec, 1993). Our concern is to understand why some students fail to put in "enough" or "real" effort, or effort on time.

Covington and Omelich (1979) offer that "teachers encourage achievement through effort, yet many students attempt to avoid the implication that they lack ability by not trying (p.169)". Covington, Spratt, and Omelich (1980) maintain that: "research indicates that although teachers encourage achievement through effort, students often minimize study to avoid the implication that they lack ability if they fail. (p.717)." In essence, students are putting in "false effort!" Some students have developed a self-worth theory of academic achievement motivation. They have learned to play the game of "false effort" since teachers expect and reward effort. But their failure, since real effort has been applied by GO students and they failed, confirms they have low capacity. The "game" of "false effort" is played as follows:

> ...while teachers often reward achievement through effort and punish not trying, for many students expending effort when risking failure poses a threat. In effect, effort can become a double-edged sword for many students. The net result is that they must thread their way between the threatening extremes of high effort and no effort at all. On the one hand, they must exert some effort to avoid teacher punishment, but not so much as to risk public shame should they try hard and fail. We believe that excuses are the students' main ally in maintaining this precarious balance. A popular tactic is to try hard, but to provide oneself with excuses to explain why trying did not help, thereby avoiding inferences to low ability by redirecting the causes of failure to external factors. It is also common for students to invent plausible reasons for having not tried, thus forestalling teacher displeasure. (Covington and Omelich, 1979; p.170)

Thus, the students' perceptions of effort are closely tied to their perceptions of ability. Putting in much effort and experiencing failure is viewed as "a sure sign of low ability." Goal-oriented students with perceptions of high ability in this situation would likely believe that they must be dumb in order to have to work so hard. Goal oriented students with low ability perceptions have an altogether different interpretation.

> Finally, it was predicted that when low-perceived-ability individuals are certain they lack ability they should also lack commitment to demonstrating ability and avoid

> successes that might indicate high ability. This phenomenon was demonstrated by Marecek and Mettee (1972). When told they had displayed above-average ability, only students who were both low in self-esteem (perceived ability) and certain of this low self-evaluation did not improve on a retest. All other students improved on the retest. (The situation was not test-like until the retest.) The individuals who were certain of their low self-evaluations improved their performance when the task was presented as a luck task: where success would not indicate high ability. This finding confirms the view that, in the skill situation, they were avoiding demonstration of high ability (Nicholls, 1984; p.53).

The goal oriented student with low ability perceptions operates not to maximize his performance but to minimize anxiety that arises from threats to his or her self-worth. To admit that ability can be demonstrated under conditions of effort is to admit that choice and change are necessary. The rational conclusion is to proceed to invest more energy in effort. However, the real threat is the recognition that effort will not always lead to the desired outcome. Sometimes the effort will fail. And that pain is so critical that it risks the fragile existence of the student with low self-worth and with perceptions of low ability. The choice is to avoid normatively and moderately difficult tasks and to sabotage the effort-is-ability concept. This is why the students who had been duped into thinking that the task was attributable to "luck" were tricked into better performances. In this manner the students' perceptions of ability, and not merely their expectations for success or failure, or even of the contingency of outcome to effort, operate on effort regulation.

> We may see some advantage in lowering our effort to minimize the extent to which failure will indicate lack of capacity (Frankel and Snyder, 1978). This would also reduce attainment. Or, if we are certain our ability is low, we will not attempt to demonstrate ability. We will see no point in expending any more effort than necessary to keep teachers or experimenters off our backs. We would not become ego-involved and would even avoid success (Nicholls, 1984; p.48).

It may very well be that under these conditions the ego- or task-oriented students with low ability perceptions are the ones who delay too long in getting the help they need. Such behaviors protect the student and operate to neutralize the teacher. After all, only the most heartless teacher would condemn a student for having belatedly "seen the error of his or her ways!"

Now we not only have the case of false effort of ego- or task-oriented students with perceptions of high ability, but we have the avoidance of effort by a ego- or task-oriented students with perceptions of low ability! So, as teachers we are dealing with three distinct types of students vis-à-vis effort regulation: Effort-as ability in the LO group, "false effort" in GO students with perceptions of high ability, and "avoidance effort" in GO students with perceptions of low ability.

Effort regulation, as we will now show, is in turn compounded by normative feedback about the performances of others ("others are doing well!") and perceptions for task difficulty. At this point we may suppose that false effort, or no effort at all, is the product of the student's perceptions of his ability, task difficulty level and type of feedback. But, before getting ahead of ourselves, we should take the time to clear up a few ideas about learning orientations. Then we may examine how each of

the per..eptions of ability, task difficulty and feedack variables are put into place to create false effort or no effort at all.

Learning orientation: Capacity as an innate ability or capacity determined by effort?

Not all students approach learning tasks with the same motivation. Wi iin the area of student academic achievement motivation there are concepts such as task- or learning orientation versus ego- or goal-orientation incorporate effort, ability and feedback variables. Nicholls (1984) has succinctly described these orientations.

> Thus, I use the term *task-involvement* to refer to states where our concern is to develop or demonstrate (primarily to oneself) high ability in the less differentiated sense. *Ego-involvement* refers to states where our concern is with developing or demonstrating (to self or others) high rather than low capacity (p.43) ...
>
> Learning will, therefore, be more likely to be experienced as a means to an end when we are ego-involved. It follows that when we are task-involved, we will attempt to learn if we see an opportunity to do so and, when doing so, will feel we are doing what we want to do. ... We will feel we are learning freely. When ego-involved, on the other hand, we will feel more constrained. Our learning will be more exogenously attributed and we will not attempt to learn if this appears unlikely to enable us to demonstrate high capacity (p.43).

Teachers insist on grades as a representation of ability and cooperate fully with students to support student effort. However, as Covington and Omelich (1979) state: "... such structuring places a premium on self-management skills, and it is the students low in self-concept of ability who are least able to manage their own learning. ...Overall, this procedure has the effect of redefining success in terms of exceeding one's own standards rather than surpassing the accomplishments of others (p.179)." Eison, Pollio and Milton (1986) have described this problem in a typical college classroom.

> For some students, the college classroom is viewed as a context in which they expect to experience new information and ideas that will be significant to them both personally and professionally. For other students, the college classroom is experienced as a crucible in which they are tested and graded and which is endured as a necessary evil on the way to getting a degree or becoming certified in a profession. These markedly different perspectives have been labelled learning orientation (LO) and grade orientation (GO), respectively .. (p.54).

One can see in this college classroom context, that the critical difference between learning- and task-orientations versus goal- and ego orientations is the role played by effort. Our college assigns teachers to be academic advisors to first year students to ease their integration into college life. Our college has long expected teachers to provide generously of their time to help students help themselves. There are also considerable resources available to students to help them meet the challenges of academic tasks, and to acquire proper study skills and learning strategies. Nonetheless too many

students will bicker about the symbols of learning rather than with learning as such. "Will that be on the final?" "How did everyone else do on the test or assignment?" "Is attendance at the test review obligatory?" "If I redo the assignment will you give me the higher of the two grades?" and so the list of questions, which reflects the goal orientation, goes on. So, then in the distinction between goal- and learning orientation one may find the groundwork for effort regulation. The question before us, at this point becomes: "What role can a college teacher play in the development of student effort and self efficacy for learning and performance?"

What college teachers can do is to help students acquire, develop and monitor their study skills and learning strategies in response to the learning tasks assigned. In the view of developmental education teachers assign the work (content knowledge) and so they should be able to explain to students how (procedural knowledge) and when and where (conditional knowledge) to apply these skills. This is quite a challenge when one considers that the message about effort, which is the engine to all this learning, has to be addressed to three very different types of students: those who believe in ability-as-effort, those who avoid putting in effort, and still some who only put in false effort. It would seem from the discussion thus far that how teachers express their values about ability and effort, especially, with goal oriented students, influences students to make real, false, or no effort. How could teachers, within their mandates as teachers and not as "would-be-counsellors," act to increase effort in some and have certain other students avoid false effort? Also, how can such a strategy operate so as not to adversely affect the students who are working to meet the standards. We defer addressing these questions to the next section dealing with how teachers provide feedback to students.

Even when the "system" changes at the level of the college classroom, to provide the conditional and procedural knowledge for acquiring appropriate learning strategies, there is little evidence about how students act in ways to register, recognize and respond in constructive ways to the message. Before we do anything we must reassure ourselves that students understand what is expected of them, and that they can accurately assess their study skills and learning strategies to meet these tasks. We hypothesized that the learning and goal orientations are related to the students' motivated strategies for learning. We also hypothesized that the LO and GO concepts could help us differentiate amongst those who likely put in "real," "false," or no effort. The Motivated Strategies for Learning Questionnaire (Pintrich et al. 1991) was shown from previous work (Talbot, 1994) to be a valid and reliable means of studying college students' perceptions of study skills and learning strategies, as well as effort awareness and management..

Task Difficulty, Perceived Ability and Effort Regulation

To be actively and constructively involved in the transfer of control to students (i.e. for them to make "real" effort), the teacher should "...deliberately provide students with teaching practices that support yet challenge their current ways of thinking and beliefs (Bateman, 1989; p.93)." Thus the level of task difficulty appears to be a critical variable influencing effort regulation.

Given that the goal oriented students operate in a self-worth theory of academic motivation (i.e. less effort means I have more ability) we must focus on students' perceptions of task difficulty. A task perceived to be very difficult by virtue that others rarely attain it, but which GO students could attain

by luck, could reveal their high ability. Even if such GO students apply much effort they are protected from failure. Failure under conditions of much effort for a difficult task do not imply low ability. There is always the "excuse" that the task was too difficult. GO students may choose not to apply effort. But that would be expected since the task is unreasonably difficult. So, GO students have everything to gain and not much to lose by undertaking tasks that are very difficult. This line of reasoning may explain why it is difficult to get students to voluntarily commit themselves to a reduced course load during their first session of study, or to undertake developmental education when offered. The task is moderately difficult and is therefore threatening to self-worth. Such behaviors would seriously jeopardize the GO students' beliefs about their ability. To fail, or not perform as well as others, under such conditions, would confirm not only to themselves but more importantly in the eyes of their peers, that they must indeed have the dreaded "low ability" syndrome.

The same reasoning would hold true for choosing very easy tasks. Participating in very easy tasks does not challenge one's ability. Of course, if failure is likely in the context of easy tasks, the GO students have everything to gain by clearly dissociating themselves from effort. Having put in effort and failing would be a humiliating confirmation that they have low ability. So, it is to the advantage of the GO students to put in "false effort" to keep their teachers off their backs, and to maintain doubts in their minds, and of their peers, about their ability. Students would rather feel bad for not putting in enough effort than to risk having the humiliation that peers think them "stupid". It is simply a question of the lesser of two evils. For some students the solution is to avoid effort. And, if requests for effort persist, to delay any effort until it is hopelessly too late to change outcomes.

This kind of effort strategy helps us to understand the behaviors of students who miss classes and avoid course work but who come during the last weeks of class to try to reach a bargain. "If I pass the final exam then I should certainly pass the course!" "If I do the three papers I should have done, or do a super rare good job on this last one, etc." Of course, teachers respond with intellectual honesty and respect for other students. The teacher must inevitably tell the student that there is not much hope left to pass the course. At this point the student makes the teacher "play the heavy". Some teachers often hear: "Other teachers allow it, why don't you?" How dare we as teachers discourage students from putting in effort! Of course, no one ever asks about the quality and the timing of that effort. How many students are allowed to write the final exam when they should be refused? The occasional result is that some complain. "After all, I passed the final exam with a high grade!" is spoken with a "So-how-come-I-failed?" atttitude. Then again students intentionally come by to ask for special exams because of conflicts with other exams when they have not been doing any of the work anyway. What difference does the final exam make, one may ask? It makes a lot of difference to these students. The teacher has to assume the "control" thereby providing the student with a legitimate excuse for failure: the teacher refused to allow me to make up work, to write the exam etc. In this manner the GO students with low ability avoid effort but can project blame on their teacher. The situation is compounded when colleagues and administration tend to accept at face value such complaints.

We have also observed on campus that many students who cut classes, and in brief, put in false effort or no effort, can be seen participating in other activities (clubs, sports, chess etc.) which serve to bolster the self-image that they are "able" people. In fact, Nicholls' (1984) work has shown that: "those selecting unrealistically low goals were distinguished from others by greater responsiveness

to non-achievement incentives (p.51)."

The following anecdote may be all too familiar to other teachers. Some students, especially those who have been doing poorly, have been observed to "come alive" during class (actively ask questions, participate in discussions, make office visits to get or offer more reading materials etc.) when the topic about Gardner's approach to intelligence is presented. Essentially, Gardner maintains that we have several types of intelligence. "Confirmation," students think, that "intelligence" may be an innate ability and that it is not only academic. According to Gardner's theory world classs athletes, actors, musicians, poets and even exceptional "street-smart" persons may all be the equivalents of the very academic "Einstein." Students' participation suggests that by challenging perceptions of achievement based on innate ability we may actually get real effort for academic tasks from students who have been putting in false effort.

We realized this potential and we decided, the following semester, to test it out in two essays in Psychology of Mental Health. We usually ask students to write three essays (at 750 words in length each). The topics remained the same but we changed the directions. Instead of being very task and effort oriented (focusing on results and outcomes) we decided to focus on the process in the belief that students would get engrossed in the topic and forget about ability. The directions in one essay were changed from the: "Choose one of the perspectives used to study mental health. Explain why this perspective seems more appropriate" to "Your friend knows you took this course. He starts talking to you about some problems and wants your opinion. From what you know about your friend and the kinds of problems he is interested in addressing, which perspective would you recommend? How would you know that this particular perspective would help him?" All but one student completed the assignment. They were all on time. And, the class average soared. Of course there are serious experimenter bias effects, unscientific protocol etc. But we can't deny that only two persons handed-in short, one paragraph "work to rule" kinds of essays. One student even came by to report that he had thought about this on his way home on the bus. He was eager to sit down to write out this essay!

The second pattern occurred for the second essay assignment. We went back the "traditional" approach with the traditional responses: not complete,not handed-in on time, matter-of-fact writing etc. Just to be sure that we were not biasing these results we asked students to redo, on a voluntary basis, a fourth assignment, but this time in keeping with the "new" approach. Rarely will we get poor students to participate. The experience has been that the 80% and more students re-submit work Low and behold! This time, and yes we realize that this may be more fluke than science, the participation rate was three-fourths of students (17/24) of which 11 of the 17 students who re-submitted work were the weaker ones! These results certainly motived us to examine more closely how we communicate the work we assign to students.

We have learned to be careful in how we present formative feedback to students to the extent that this is related to students' self worth. Specifically, we are careful

1) that tasks are clearly defined, moderate in difficulty, and understood by students. Otherwise the perceptions of "easy" versus "difficult" tasks triggers strivings for false effort in some students.

2) that skills or abilities required to accomplish these tasks must be defined and assessed from a phenomenological perspective. The increments for change must be those of students. Not only the task but also the processes for attaining the goal must be moderate. This implies that the student chooses a) on what to begin working, b) with how much initial effort, and c) the incremental blocks of efforts. Otherwise students increase effort without necessarily increasing ability. That is, in the words of Weinstein, students "word harder but not smarter!"

3) in recognizing that self-worth is a function of how well one uses what one thinks one has. Effort implies choice, change and responsibility. Assuming this to be true, changes in self-worth ought to be reflected to the degree that one perceives positive changes in what one does rather than what one has (ability). This is precisely the goal-state we are working for in student self-regulated behavior. If GO students could focus on process and effort, rather than on goal and ability, they could learn to put in effort without threats to their self-worth.

The changes in process require teachers to provide non-threatening evaluations and feedback, and opportunities for students to develop appropriate study skills and learning strategies. There is no choice for the teacher but to give the information. It is part and parcel of the job. The choice to act belongs to the student. If we are to respect our roles as teachers then we must inform students and provide the necessary advice and strategies for them to change. The first step, it would seem, is to have a general idea of the specific areas with which students need help. From this discussion it would seem wise for teachers to engage students as to what they perceive to be reasonable effort. There is every hope that helping students face the challenge from a task orientation to a learning orientation increases their intrinsic motivation, effort, and sense of self-worth. The very interesting case of Virginia Valian (1977) provides detailed insights into the struggle this woman underwent to produce meaningful effort. Imagine, she reports that she started by asking herself for 5 minutes of real effort per day -at the graduate level! That was all she could cope with. She gradually worked her way to 20 minutes a day and so on. She also explains how she used excuses and conned her way into graduate school

We have been actively putting together a workshop experience for students. We hope to find the motivation from the results to move away from content driven courses to a position in which the teacher is more of a "guide" than a purveyor of information. The "trick" is to ensure that students, especially the learning oriented ones, will acquire the contents. I am all too aware of some strategies that have turned college classrooms into "free-for-alls." We do have to respect content. We cannot reach out to help some at the cost of sacrificing those who are actively involved in their education. We felt it more prudent to engage in perception checks at each step of the process. In effect, we have adopted an approach that is quite similar to the one being applied to students with false or no effort: slow and steady work. Teacher and student differences, which come to light in the context of providing feedback, has important implications, as we suggest, for both teachers' and students' effort regulation. A topic to which we now turn our attention.

Effort Communication and Feedback

We can get the impression that students and teachers are in an adversarial system where teachers dole out the precious little grades which have come to mean too many things for students, parents, administrators etc. Such statements as: "Others are doing well, why not you?"; "You are below average in..."; "You'll never have good chances in university (on the job) if you don't get in step with the others" reflect normative influences. Such normative justifications undermine the motivation of goal oriented students. It is important in the eyes of the goal oriented students with perceptions of high ability to prove to others that they are able. Goal oriented students with perceptions of low ability try to protect self-worth by avoiding effort. Covington, Spratt and Omelich (1980) have offered these results: "... that although effort stability contributed little to variations in student affect, it did influence teacher judgments, suggesting that determination of feedback is a more complex process than implied by a simple distinction between teachers as reinforcers of modifiable (unstable) behavior and moralistic conveyors of a work ethic (p. 717)." How teachers and students communicate with each other about effort expectations and expenditure seems to underscore their differences about motivational attributions. It would be to our interest, as teachers, to understand the communicating process about efforts and how it affects goal oriented students.

The essence of evaluating and providing feedback about cognitive strategies for learning, in a non-threatening way, is to show students that: (1) the threat is serious, (2) they are vulnerable, (3) they can learn to do something about this threat, and (4) we can and will teach them, at a pace and in blocks they choose, the strategies they need in step 3. This system supposes that the teacher will maintain the goals. If students can learn to offer excuses to avoid or escape the academic tasks then they will do so.

Lowman (1984,1994) maintains that in or out of the classroom effective teachers were perceived by students as enthusiastic, knowledgeable, interesting, excited, and clear; the most common adjectives dealing with interpersonal relationships were accessible (including approachable and available), concerned, encouraging, and challenging.

> Such interpersonal virtuosity likely stems from sincerely positive feelings for students and an ability to motivate students from within, using indirect methods rather than on relying heavily on direct methods of leadership control. I have observed a number of teachers who, when describing assignments, are careful to avoid phrases like "I require," "I expect," or "You must" in favor of more neutral words like "I hope," "I think you will find," or "You may." Such language subtleties may seem trivial, but they can go far toward encouraging students to work for learning (or intrinsic) rather than for grading (or extrinsic) reasons (Lowman,1984).
>
> We have the power to affect the motivational set under which our students work
>
> Students with a strong *learning orientation* see classes as a place to satisfy their curiosity about the subject and to meet some of their own objectives, which they usually have for any college course but especially for their electives. Learning-oriented

> students are usually independent and motivated more from within. By contrast students with a strong *grading orientation* think of classes in terms of requirements ("Do we have to write a paper?"), the instructor's externally imposed expectations ("What is it you want from us?"), and the necessity of getting degree credits out of the way. For grading-oriented students, the class is an obstacle to be overcome with the least possible cost in terms of time, energy, and the almighty grade-point average.
>
> Instructors can unintentionally encourage a grading orientation in a number of ways. ...elaborate schemes punishing late exams and papers ... Such announcements clearly reveal our expectation that students are working primarily for the grade they receive and that we are unable to get them to turn work in on time without the use of external and frequently aversive contingencies. Many instructors report that making no mention of makeup exams or late papers on the syllabus or in class --- but being very accommodating to individual students who ask for makeups or extensions --- is an alternative approach that reduces late work and our external, controlling role with students (Lowman, 1994;p.3).

We take issue with the phrase "alternative approach" since the deadline has been removed because the instructor has been "very accommodating". Where do we draw the line? Are we contributing to students' helplessness or giving in to egotistical demands? Is it realistic to say that we are motivating students by setting ourselves up as judges of each and every instance of a student request for a delay? This sounds more a like a strategy for "getting by" than for motivated self-regulation! It seems more plausible that Lowman means not to emphasize any of the negative (counterproductive) behaviors and to focus on all attempts of students at fostering positive behaviors.

> ...to routinely assign ungraded work. ...Even if we encounter excellent students all too infrequently, it is useful to think of their qualities when deciding what student behaviors we want to encourage and reinforce (p.3)

We are proposing that teaching and learning motivation are similar with respect to organizational skill, delivery (or learning) skills, and a combination of intrinsic and extrinsic motives. What would be the reactions of teachers who heard that they are college teachers only for the job security, extended summer vacations, pay etc.? Probably the same reactions as we are getting from students who are reminded that they only work to avoid deadlines, for the grade etc. Lowman (1994) has clearly stated the case for a process view rather than a task view of effort and learning: "...continued effort and commitment is required to reach a distinguished level of effectiveness (p.4)"

Although all students can be expected to benefit from such an approach, not all students can be expected to participate. Some students are caught up in gratifying adolescent needs and new-found freedoms, others clearly lack ability, while some have personal and family problems that limit the amounts of energy they may call up; and, some have much too heavy "part-time" work loads. Such students need to be referred to the Counselling Services. By focusing on helping students to change we send a clear message: we are interested in the quality of teaching and learning. In this sense we placing developmental education (change) within the greater context of the criterion referenced, or "effort" based, system of education.

Method

Subjects

One hundred and nineteen students, in the Fall, 1994 session, in four first- or second-year psychology classes at Champlain-St.Lawrence College (N=~750 students), in Québec City participated in the study. In nine cases students were taking one or two other courses concurrently. Only the questionnaires and grade information from the course in which they were first asked to complete the materials were retained. Of the remaining 110 students between four to ten students either did not complete one questionnaire, or major parts of it, so as to render their participation impossible. Thus, the sample varied from 100 to 106 (from 90.6% to 96.4% participation rates). The student participants represented 96% of the students who normally enroll in such courses. Although students' ages ranged from 17 to 46, with all but the three adult students, the range would be 17 to 20 years of age with a median at 18 years of age. Thirty-six per cent of students in this study considered themselves to be bilingual while about 18% and 46% considered themselves to be primarily English- or French-speaking, respectively. There were about 70% females and 30% males in the sample.

The open-door, heavily subsidized, college system in the Province of Québec provides two and three year professional, technical, pre-university, pre-medical and pre-law programs to students who have a high school diploma. As elsewhere, competition for admission to some of these programs varies. The college programs are very rigorous and would correspond, in the American educational system, to about 110 "credits", depending on the program of study.

Materials:

The following instruments were used to generate the data about student attitudes and behaviors for learning tasks and skills. The learning or goal orientations were assessed with Eison, Pollio and Milton's (1986) LOGO-2. The students' motivated strategies for learning, previously established as useful in this context and with college students (Talbot,1994), were assessed by a questionnaire (Pintrich et al., 1991) of the same name. The in-house self-reflective awareness for learning tasks and skills was derived from the work by Kirby & Teddlie (1989), Finally Kerwin-Boudreau's (1980) suggestions for the cognitive modification of behavior was the basis for the information provided to peer tutors about their work as tutors. Also, her manual offered the fundamental re-attribution training theory and examples to help the teacher to focus on disputing the students irrational belief systems about academic work.

Procedure:

A series of teaching and learning experiences that emphasized and promoted task-orientation rather than ego-orientation were necessary. One such attempt was the Quiz Review Workshops held for 2 hours, after each of the first four quizzes. Attendance at the student workshops was voluntary. The task was presented as moderately difficult with all references to normative performances eliminated. Also, students were invited to choose the topics and the type of help (peer counsellors, the teacher or self-help books in the library). A copy of the handout given to students who attended the workshops appears in Appendix 1.

Students were told that the teacher was interested in learning what students thought about course materials so that he might better prepare courses, assignments and evaluation practices for the next cohort of students.

During the first two classes in each course students received verbal and written information (on the course outline) about the skills and strategies to make them successful learners. During the fourth class, just after the one-week transfer period was over, students completed the LOGO. Finally, students were asked what grade they expected to earn in the course.

Students were asked at mid-term (eight weeks into the course) to complete the LOGO again along with the Motivated Strategies for Learning Questionnaire (Pintrich et al., 1991), and the in-house Self-Reflective Awareness instrument. In all courses the mid-term was made up of three in-class quizzes (each including matching, multiple-choice and brief essay questions) and one written assignment (750-1000 words). The cumulative Final Exam was multiple-choice and a brief essay. The final course grade was based on the work up to the mid-term, two more quizzes and one more written assignment.

Six students volunteered in three classes to work helping peers who experienced difficulties (failed the first and second quizzes or the written assignment). The teacher held four pre-announced "Quiz review workshops" in which students could drop in over a two-hour interval to review quizzes, ask the tutors or the teacher for help etc. Student attendance was noted discretely for each of these sessions.

Students were invited to make individual office appointments (12 hours of time per week was set aside) to have personal reviews of written work pre-read but ungraded, to revise lecture notes, and to check on reading comprehension of assigned readings. Finally, private office visits also afforded the teacher the opportunity, when the occasions were addressed by students, to dispute faulty learning beliefs and to explain to students how to work smarter rather than harder (Weinstein et al.,1991). Again, a list of the names of students who made and kept appointments was kept discreetely.

At the end of the semester, after all grades had been submitted, the coded response patterns of each record in the data base was matched to the list of student names. In this manner we were able to determine which type of student (LO or GO) attended workshops and made/kept appointments.

The usual reliability procedures (Norusis and SPSS, 1994; i.e. "reliability" command) were used to ascertain the soundness of the questionnaires.

Results

We minimized conversations about evaluation and we tried to avoid normative feedback. We focused on feedback about effort regulation. We observed that bickering about grades, unprepared office visits, requests for delays on assignments, and silly or extravagant excuses became rare occurrences. Some students were advised to check on taking lectures notes and then to compare them against the master used in class. We then discussed strategies, for example, with changes in taking notes or, as is very often the case, in revising the notes. Many students have problems with English language skills and vocabulary. We examined the behaviors of such students to understand which minor behaviors may be realistically revised, then monitored to see changes in the goal, before proceeding to another and more difficult level.

We now realize that the name of the workshop needs to be changed to something more neutral. A title that will appeal less to skill development so as to encourage goal oriented students who manifest both false effort and effort avoidance to attend. It seems preferable to distribute Appendix 1, explaining the procedures used in the workshop, to all students.

The reliability procedures for the LOGO-2 were mixed. The reported Cronbach's alpha was weak for learning and goal oriented attitudes (Cronbach's alpha equalled 0.3642 and 0.3602, respectively) and strong for learning and goal oriented behaviors (alpha = 0.7020 and 0.6006, respectively). Most of the statistical analyses were based on the LOGO behaviors rather than attitudes. In this manner we drew inferences on what students were observed to do rather than on what they thought or felt should be done.

The reported reliability between those reported for selected variables from the MSLQ manual and our college sample, based on Cronbach's alpha, are presented in Table 1. The basis for selecting certain variables in the MSLQ was made on the fact that some of the MSLQ variables did not seem to have significant relationships with the LOGO variables under study (see Table 2). For example, In Table 2 the Peer Learning variable in the MSLQ did not relate in important ways with any of the goal oriented attitudes (GOATT; r=0.0772), goal oriented behaviors (GOBEH; r=0.0627), learning oriented attitudes (LOAT; r=-0.0400), or learning oriented behaviors (LOBEH; r=0.1818). Besides peer learning, rehearsal was also not related to either the learning or goal oriented behaviors or attitudes of students in this study.

(INSERT TABLES 1 and 2 ABOUT HERE)

The in-house self-reflective awareness ("SRA") scale is presented in Appendix 1. Questions 1, 2, 8 and 9, made up the Diagnosis Scale to assess the students' ability to assess the differences between learning task requirements, and personal study skills and learning strategies. Cronbach's alpha for this scale is 0.5580. The Testing Scale was based on questions 3 through 7 and 10 to assess the students' use of formative feedback between task demands and personal efforts and resources to meet those demands. The alpha is reported at 0.6081. An alpha of 0.3793 is reported for the Personal Causation scale, based on questions 11, 13, 14 and 19, which measured the students' beliefs that their skills and efforts could affect outcomes of assigned learning tasks. The overall reliability of 0.7550 was reported for the composite Self-Reflective Awareness Scale, based on questions 2, 3, 4, 7, 10, 11, and 12. This

scale was used as the single best guess at students' awareness (diagnosis, testing and personal causation) of themselves as learners. Questions 15 through 18, consistency checks on the reliability of students' responses, were not part of the reliability procedure.

The relative stability between the learning and goal oriented attitudes and behaviors expressed at the beginning of the course and at mid-term (BSGOBEH-GOBEH, BSLOBEH-LOBEH, BSGOATT-GOATT and BSLOATT-LOATT) are visible in Table 3. We also see in these descriptive statistics differences between the goal oriented ("GO") and learning oriented ("LO") scales, especially between the scales that measure behaviors ("BEH") from those that measure attitudes ("ATT"). In Table 4, the Friedman 2-way anova between the LO and GO scales at the beginning of the course and again at mid-term, reveals a very important difference already existed at the beginning of the course between students' attitudes and behaviors, and/or between learning- and goal-orientations. The Wilcoxon test results, reported in Table 5, confirm that there were not many important changes in attitudes and behaviors between the beginning of the course and the mid-term. We observe a certain relative stability in the entry level LOGO of students. (which tends to persist through mid-term right through to the final exam and final grade).

(INSERT TABLES 3, 4 and 5 ABOUT HERE)

Table 6 reports the correlations, and the degree of importance we match to these, of the motivations and strategies (MSLQ scores) and students' awareness of themselves as learners with the LOGO attitudes and behaviors. Confirmation of the earlier observation that behaviors are more reliable than attitudes are seen in the fact that more and stronger relationships are reported for the GOBEH and LOBEH scales than for the GOATT and LOATT scales. What strikes us immediately in Table 6 is the strong trend for goal oriented and learning oriented students to have correlations in opposite directions. The strongest effect is with intrinsic motivation and then again with task value. The GO students reported very important and negative correlations while the LO students had very important and positive correlations for both intrinsic motivation and task values. If we repeat this observational process we find that learning oriented versus goal oriented students tend to have significantly positive behaviors, but in opposite directions with respect to critical thinking, effort regulation, self-regulation, and time and study management. The goal oriented students report additional problems with self-efficacy for learning and performances ("SELP") and with test anxiety.

(INSERT TABLE 6 ABOUT HERE)

The critical question revolves around the two dependent variables: grades expected and actual grades earned. The goal oriented students (GOATT and GOBEH) again showed significant and opposite relationships of their orientations with expected and actual grades. Apparently the goal oriented students do not have the orientations that allow them to make realistic expectations. Table 7 reports the partial correlation coefficients between the LO and GO students for grades they reported expecting at the beginning of the course and at mid-term -just before actual mid-term grades were delivered. One would expect that the closeness of the predicted grade made just before receiving one's actual mid-term grade would be far more realistic than possibly the students' grade expectations made at the beginning of the session. Learning oriented students were able to make significant predictions at the very start of the course and to continue to the mid-term. Goal oriented students did

not make such correct predictions. They did however improve in their abilities (p moved from 0.203 to 0.082, and from 0.072 to 0.064) which could suggest an important difference in the direction of change but not substantial enough to make their mid-term predictions about expected grades accurate. We suspect that students are moving away from their goal orientation, but we cannot on this evidence argue that they have moved to a learning orientation.

(INSERT TABLE 7 ABOUT HERE)

Although we know that GO students tended to wait much too late to effectively change themselves we can ask ourselves if this was real effort in the learning orientation, a false effort, or avoidance effort strategy? If GO students were defensive about effort regulation we would expect that they reported inflated effort regulation and self regulation scores as well as little relationship between the self-efficacy for learning and performance scores to their goal oriented behaviors. Partial correlation results between Goal Orientation and effort regulation (-0.1524; alpha=0.075) and GO with self-regulation (-0.1820; alpha=0.042), controlling for ability estimates made on mid-term performances, suggests such an effect. GO students tended to report an unrealistically high realtionship between effort and goal orientation, controlling for actual performances. The negative correlation sign indicates problems with either effort awareness and management We can suppose that our GO students have a problem with effort, feel it interferes with their performances, but report quite the opposite when asked if they are putting in appropriate effort. The GO students say they are putting in real effort but their behaviors reveals that they are either too defensive about this, probably to hide their false efforts, or they report the subjective experience of effort rather than objectively required effort. The interpretation is more inclined to be in favor of false effort because the questions on which effort, self-regulation and effort are based are worded to reflect cognitive behaviors.

A comparison of the results between the teacher's attendance record of students in workshops, office visits etc. and the type of student (LO or GO) revealed that participants were LO rather than GO oriented. The point biserial correlation coefficients of students' Learning or Goal Oriented ("LOBEH" versus "GOBEH") behaviors and dichotomized attendance ---participation or office visits (1=none; 2=any) ($r_{pbiLOBEH}$=0.4565; $r_{pbiGOBEH}$=0.2046)--- were tested to see if the LO or GO scores could more accurately predict such attendance, participation or making office visits. The procedure described by Ferguson (1971) was used to test the significance of a difference between two correlated variables (LO and GO scores of students) and a third variable (attendance or not). The t=2.487, significant at 0.05, and the size of the $r_{pbiLOBEH}$ (0.4565) suggests the presence of significantly more LO students at reviews, office visits etc.

Discussion

If the important levels of anxiety that goal oriented students manifested were related to learning, performance and evaluation anxieties then one could expect them to move towards improving these skills in order to restore themselves to more normal levels of anxiety. Since we know that the GO students did not act in these ways we can suppose that it is not a rational and cognitive approach that can motivate them.

The theory that GO students are low in intrinsic motivations was confirmed but extrinsic motivations, which should have been high, was only mildly supported. Given the important negative correlations between task value and goal orientation we may suppose that GO students' goals and course related interests were very low. In this context it may seem reasonable that each time such schemes, as were proposed to remedy deficiencies in learning and strategies, students feel anxious about the upcoming attempts to push them along once again. We know (Talbot,1990) that extrinsically motivated students operate on a "you've got it, or you don't" kind of thinking and that the symbols or products of learning are more important than the changes and processes which accompany learning. In this context, inviting GO students to participate, in what must be interpreted by them as "remedial work," can only serve to confirm and remind them that, indeed they must be pretty stupid, and that the hope of attaining the almighty symbols is elusive. Workshops and other rational approaches that appeal to ability and effort regulation will not, it would seem, attract students with a goal orientation.

There is a very important negative correlation between Self-Efficacy for Performance ("SELP") scores and goal orientation. In the context of low intrinsic motivation and low task value, one may suppose SELP reveals that GO students "don't care about where they are heading, so why should they care about how they get there!" However, GO students had very important and negative behaviors, but not attitudes, about themselves as learners. It might very well be that GO students care too much about the goals of learning ---the attitudinal component--- and the interpretations of effort in relation to themselves (self-worth) or others interpretations about their ability (normative feedback) ---the behavioral component--- to want to make realistic efforts. The GO behaviors are quite the contrary to the LO students who reported that learning to diagnose, invest themselves, and test their solutions made important contributions to the awareness of themselves as learners. The pattern of SELP scores for the LO and GO students, in relation to workshop attendance, is suggestive of an interaction between ability perceptions and effort regulation.

GO students have unrealistic expectations of themselves and their performances. This is reflected by the high initial expectations for performance and then failing to make any adjustments to learning processes and strategies as in-coming grades suggest something is not correct. Talbot (1990) has suggested that dichotomistic thinking, which helps us to identify the LO and GO students, is a failure in attributional complexity. Such students do not see effort in degree but rather as being present or absent. Such dichotomistic thinking about effort makes it difficult to understand effort regulation, especially how to put in "more" effort. This interpretation is in keeping with the thinking of students who put in false effort or avoid effort altogether.

It may be that the goal oriented students

> ...cannot focus on 'task-relevant cognitions' instead of directing all their conscious

> energies to the task at hand. They readily admit to cognitions which they know are irrelevant. "The anxious person's negative self-appraisals are not only unpleasant but, because they are self-preoccupying, they detract from task concentration (Sarason, 1987; p.132)".
>
> In this respect anxiety is related to too much emphasis on the 'self' in learning. "There is a sizeable body of evidence consistent with the idea that proneness to self-preoccupation, and more specifically worry over the evaluation, is a powerful component of what is referred to as test anxiety (Sarason, 1987; p.136)."

If such is the case then the matter is out of the hands of college professors. The teaching professionals in our colleges have been mandated to act as academic advisors. They are also accountable for transmitting contents as well as explaining how, when and where to study . Dealing with non existent or inappropriate student motivation is possible at a cognitive level. It is inappropriate to ask college teachers to engage their students about remunerated employment, extra-curricular activities, personal and family matters etc. These are not within the scope of the student-teacher relationship. We have neither the training nor the expertise to deal with these issues. As well there are fundamental issues with the moral and legal rights, in this Province, of students to their privacy. Ethical and legal considerations do not allow us to interfere with students' privacy and right to choose.

If students have inadequate academic preparation or need additional help to develop their skills then they should and do, find the rational and cognitive resources placed at their disposition. The adage seems to be that: "You can bring a horse to water, but you can't make him drink!" As for the observation that mounting levels of anxiety from threats to self-esteem are possible, it would seem wiser for college professor to refer these students to the college counselling office.

Conclusions

College teachers should not "wash their hands" of the matter. Their behavior should focus on content and process. Our manner of assigning work should be based on directions and explanations that will stimulate both the LO and GO students. According to Lowman (1994) and Milton, Pollio and Eison (1986) teachers should avoid directions, explanations, and resorting to academic procedures that stress the goals and products of learning. Apparently college teachers need to avoid reminding, or suggesting to students, that the only reason they will try to learn anything is to meet deadlines, to earn a grade, to jockey into a better position for employment etc. In essence, students' self-fulfilling prophecies, according to these researchers, may be altered by college teachers' expectations for internal locus of control in students rather than the actual "...external, controlling role with students (Lowman,1994; p.3)" that teachers have with the GO students. In this manner college teachers may help the GO students empower themselves.

We felt that Cégep teachers in Québec could intervene with a rational approach to student learning problems. College teachers are there, we reasoned, to provide content, ensure good pedagogy as well as a warm and supportive interpersonal relationship. In this context we can reasonably expect college teachers to continue offering a warm and supportive social climate that will facilitate students

approaching them. While avoiding external attributions for student performances we do need to insist on students' efforts on their study skills and learning strategies. Without insisting on he motives for seeing students, we can call them in to review their work. We can encourage effort from the GO students if we politely persist. We don't have "to be on their backs" but we don't have to ignore them either. For example we can, according to college policy, hand back an ungraded essay, with the mention "no grade possible". As we personally return this result we renegotiate with the student to re-do the work according to some agreed upon changes. Apparently GO students want the summative feedback and to avoid effort or put in false effort to keep the teacher "off their backs". Let's try not to give them what they want until they give us some of what we want for their own good -some real effort! Escape reinforcement, if it works, may actually then lead students into avoidance reinforcement.

We may suppose, from these results, that our college (Cégep) students are aware of both their learning skills and behaviors, as well as those needed, to act on learning tasks. However, those who are overly concerned with the symbols of learning (grades, diplomas etc.) are most likely to need this help but rarely act in ways to get it. What we have learned is that the LOGO and MSLQ may be used to help us predict which students are likely to have faulty attributional processes about their ability and effort regulation. Future work will have to address how college teachers can actually implement such information to move students away from false effort or avoidance of effort.

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Table 1: Comparison of the Reliability Analysis Reported for Selected MSLQ With a Sample of College Students

Variables:	MSLQ	College Sample
Motivations:		
Intrinsic Motivation	0.74	0.7322
Extrinsic Motivation	0.62	0.6494
Task Value	0.90	0.8475
Control of Learning Beliefs	0.68	0.4920
Self-Efficacy for Learning and Performance	0.93	0.8975
Test Anxiety	0.80	0.7927
Strategies:		
Rehearsal	0.69	0.7294
Elaboration	0.76	0.7222
Organization	0.64	0.7167
Critical Thinking	0.80	0.8080
Time and Study Management	0.76	0.5893
Peer Learning	0.76	0.7041

TABLE 2: Correlation Coefficients of College Students' Attitudes and Behaviors Towards Learning, or the Goals of Learning, and Their Motivated Strategies for Learning.

SCALES:	Extrinsic Motivation (EM)	Intrinsic Motivation (IM)	Critical Thinking (CT)	Elaboration Strategies (Elab)	Control of Learning Beliefs (CLB)	Goal Oriented Attitudes (GOAtt)	Goal Oriented Behaviors (GOBeh)	Learning Oriented Attitudes (LOAtt)	Learning Oriented Behaviors (LOBeh)
EM:	-------	-.0550	.0908	.1939	-.0337	.1728	.2416**	-.1275	.0088
IM:	-------	-------	.5460	.5485	.3278	-.3991***	-.4952***	.4318***	.5295***
CT:	-------	-------	-------	.6059***	.2214**	-.3205***	-.2243*	.1696	.4088***
Elab:	-------	-------	-------	-------	.1191	-.2451**	-.2486**	.1124	.5216***
CLB:	-------	-------	-------	-------	-------	-.1304	-.0368	.2129*	.1168
GOAtt:	-------	-------	-------	-------	-------	-------	.3201***	-.0153	-.3494***
GOBeh:	-------	-------	-------	-------	-------	-------	-------	-.2291*	-.2562**
LOAtt:	-------	-------	-------	-------	-------	-------	-------	-------	.2665**

SCALES:	Extrinsic Motivation (EM)	Intrinsic Motivation (IM)	Critical Thinking (CT)	Elaboration Strategies (Elab)	Control of Learning Beliefs (CLB)	Goal Oriented Attitudes (GOAtt)	Goal Oriented Behaviors (GOBeh)	Learning Oriented Attitudes (LOAtt)	Learning Oriented Behaviors (LOBeh)
Organiz:	.2945**	.2946**	.2844**	.6043***	-.0640	-.1609	-.0575	.0510	.2881**
PeerLrn:	.2638**	.1372	.3699***	.4340***	-.1215	.0772	.0627	-.0400	.1818
Rehearse:	.2591**	.2164*	.3155***	.5054***	-.0916	-.0405	-.022	.0606	.1378
SelfReg:	.3137***	.4229***	.4335***	.6065***	.1818	-.2028*	.0569	.1181	.4312***
SELP:	-.0625	.4897***	.3766***	.2969**	.4213***	-.2095*	-.3694***	.1555	.1887
TaskVal:	.1503	.6007***	.3618***	.5308***	.3982***	-.2882**	-.2566**	.2196*	3976***
TestAnx:	.4271***	-.2118*	-.1489	.0389	-.0437	.2780**	.4083***	-.1187	.0466

	Organization Strategies (Organiz)	Peer Learning (PeerLrn)	Rehearsal Strategies (Rehearse)	Self-Regulation (SelfReg)	Self-Efficacy for Learning & Performance (SELP)	Task Value (TaskVal)	Test Anxiety (TestAnx)
Organiz:	-------	.4272***	.6035***	.6881***	.0460	.3479***	.1643
PeerLrn:	-------	-------	.3793***	.3166***	.0547	.0663	.0388
Rehearse	-------	-------	-------	.5057***	-.1072	.2614**	.1852
SelfReg:	-------	-------	-------	-------	.0348	.4149***	.3413***
SELP:	-------	-------	-------	-------	-------	.4032***	-.5788***
TaskVal:	-------	-------	-------	-------	-------	-------	-.0379

* significant between .05 and .01
** significant between .01 and .001
***significant at .001 or less

Table 3: Descriptive Statistics for College Students' Attitudes and Behaviors Towards Learning or the Goals of Learning at the Beginning of Their Course and at Mid-term.

VARIABLE:	Mean	StdDev	Variance	Minimum/Maximum	N
BSGOBEH	16.91	4.13	17.07	9 / 29	102
GOBEH	16.91	3.94	15.52	9 / 27	104
BSLOBEH	22.42	4.72	22.27	11 / 33	104
LOBEH	22.22	4.51	20.33	14 / 37	102
BSGOATT	25.42	4.01	16.09	16 / 36	102
GOATT	25.19	3.81	14.50	14 / 35	106
BSLOATT	28.28	3.63	13.18	21 / 38	102
LOATT	28.31	3.28	10.79	18 / 38	106

The "BS" prefix refers to resutls obtained before the start of the session; GO and LO refer, respectively to Goal Orientation versus Learning Orientation; and, "BEH," "ATT" refer to behaviors and attitudes. So, LOATT refers to Learning Oriented Students' Attitudes.

Table 4: The Friedman 2-Way ANOVA of College Students' Scores on the LOGO Before the Course and at Mid-term.

Mean Rank	Variable	Cases	Chi-Square	DF	Significance
Before the Course:					
2.99	BSGOATT				
1.34	BSGOBEH				
3.55	BSLOATT				
2.12	BSLOBEH	102	174.23	3	0.0000
At Mid-Term:					
2.88	GOATT				
1.25	GOBEH				
3.66	LOATT				
2.20	LOBEH	104	195.30	3	0.0000

Table 5: The Wilcoxon Matched-Pairs, Signed-Ranks Between College Students' Attitudes and Behaviors Towards Learning or the Goals of Learning Before the Course and at Mid-term.

Goal Oriented **ATT**itudes BEFORE and at MID-TERM					
Mean Rank	Cases	Signed Ranks	z=	p*=	N=
45.60	50	- Ranks (GOATT < BSGOATT)			
44.23	39	+ Ranks (GOATT > BSGOATT)			
	13	Ties (GOATT = BSGOATT)	-1.1353	0.2562	102
Goal Oriented BEHaviors BEFORE and at MID-TERM					
Mean Rank	Cases	Signed Ranks	z=	p*=	N=
43,01	43	- Ranks (GOBEH < BSGOBEH)			
42.99	42	+ Ranks (GOBEH > BSGOBEH)			
	15	Ties (GOBEH = BSGOBEH)	-0.0964	0.9232	100
Learning Oriented ATTitudes BEFORE and at MID-TERM					
Mean Rank	Cases	Signed Ranks	z=	p*=	N=
43,74	39	- Ranks (LOATT < BSLOATT)			
42.37	46	+ Ranks (LOATT > BSLOATT)			
	17	Ties (LOATT = BSLOATT)	-0.5324	0.5945	102
Learning Oriented BEHaviors BEFORE and at MID-TERM					
Mean Rank	Cases	Signed Ranks	z=	p*=	N=
49.57	49	- Ranks (LOBEH < BSLOBEH)			
45.24	45	+ Ranks (LOBEH > BSLOBEH)			
	6	Ties (LOBEH = BSLOBEH)	-0.7410	0.4587	100

*p is 2-tailed

Table 6: College Students' Motivations, Learning Strategies and Awareness of Themselves as Learners as Related to Their Attitudes and Behaviors Towards Learning or the Goals of Learning

VARIABLES:	GOATT	GOBEH	LOATT	LOBEH
Motivations:				
Intrinsic Motivation	-0.4020***	-0.4786***	0.4292***	0.5148***
	0.0009	0.0009	0.0009	0.0009
Extrinsic Motivation	0.1623	0.2442*	-0.1177	0.0112
	0.096	0.012	0.229	0.910
Task Value	-0.2961**	-0.2403*	0.1747	0.3821***
	0.002	0.014	0.073	0.0009
CLB	-0.1343	-0.0432	0.2503**	0.1141
	0.170	0.663	0.010	0.249
SELP	-0.2159*	-0.3630***	0.1924*	0.1850
	0.026	0.0009	0.048	0.060
Test Anxiety	0.2780**	0.4147*	-0.0932	0.0334
	0.004	0.0009	0.342	0.737
Strategies				
Rehearsal	-0.0453	-0.0372	0.0562	0.1196
	0.645	0.708	0.567	0.227
Elaboration	-0.2503**	-0.2392*	0.1432	0.5081***
	0.010	0.014	0.143	0.0009
Organization	-0.1653	-0.0458	0.0544	0.2664**
	0.090	0.644	0.580	0.006
Critical Thinking	-0.3206***	-0.2144*	0.1809	0.4005***
	0.001	0.029	0.064	0.0009
Effort Regulation	-0.2218	-0.2530**	0.0947	0.3079***
	0.022*	0.010	0.334	0.001
Self Regulation	-0.3526***	-0.1719	0.1907*	0.4604***
	0.0009	0.081	0.050	0.0009
Peer Learning	0.0765	0.0766	-0.0205	0.1752
	0.436	0.0686	0.835	0.075
HelpSeeking	0.1768	0.1974*	-0.1052	0.0287
	0.070	0.045	0.283	0.772
Time/Study	-0.0841	-0.2736**	0.1534	0.2807**
Management	0.391	0.005	0.116	0.004
Awareness of themselves as learners:				
Diagnose	-0.0983	-0.2738**	0.1361	0.2410**
	0.321	0.005	0.168	0.015
Personal	-0.1353	-02616**	0.1856	0.2198*
Causation	0.171	0.008	0.059	0.026
Testing	-0.1821	-0.4136***	0.1969*	0.3033**
	0.064	0.0009	0.045	0.002
SRAScore	-0.2183*	-0.4049***	0.2547**	0.3170***
	0.026	0.0009	0.009	0.001
Goals of Learning (Grades):				
GradeExp	-0.2651**	-0.3075***	0.1253	0.2978**
	0.006	0.001	0.201	0.002
MidTermGrade	-0.2374*	-0.3303***	-0.0016	0.1068
	0.021	0.001	0.988	0.305

Table 7: Partial Correlations Amongst the Attitudes and Behaviors Towards Learning, or the Goals of Learning, with Grade Students Expected, at The Beginning of The Course Or At Mid-term, to Receive at Mid-Term, Controlling for the Actual Mid-term Grade Received

	LOGO SCORES REPORTED AT BEGINNING OF COURSE				LOGO SCORES REPORTED AT MID-TERM			
	Goal Oriented		Learning Oriented		Goal Oriented		Learning Oriented	
	Attitudes	Behaviors	Attiudes	Behaviors	Attitudes	Behaviors	Attitudes	Behaviors
Grade Expected as given at mid-term	-0.1419	-0.1999	0.3652**	0.4526***	.....	.....	.....	.....
P=	0.203	0.072	0.001	0.000				
Grade Expected as given at beginning of course	.....	.....	.....	.....	-0.1811	-0.1930	0.2316*	0.3243**
p=					0.082	0.064	0.025	0.002

Appendix 1: The in-house self-reflective awareness of learning scale.

NAME:_____ COURSE_____

Please select one of the following to express your opinion for each of the following statements.

1=Very strongly disagree
2=Strongly disagree
3= Disagree
4=Undecided
5=Agree
6=Strongly agree
7=Very strongly agree

_____ 1. There are important student study skills and learning strategies that can contribute to academic success in this course.

_____ 2. I find many of my previously learned study skills and learning strategies useful for this course.

_____ 3. I find it is important for me to be able to apply what I learn in this course to my personal experiences.

_____ 4. I consider myself to be fairly up-to-date on the most recent study skills and learning strategies.

_____ 5. I learned new study skills and learning strategies for this course.

_____ 6. An important aspect of learning is to learn new ways of looking at things.

_____ 7. Part of the work in this course is to learn new values and new attitudes towards things.

_____ 8. If I find I can't do as well as I like in this course I try to change my study skills and learning strategies.

_____ 9. The teacher is available if I need help to change my study skills and learning strategies.

_____ 10. The teacher's attitudes and values toward learning influence students to think about their study skills and learning strategies.

_____ 11. The teacher can make the least motivated student like this course.

_____ 12. I can only blame myself if I do poorly in this course.

_____ 13. I do not let the fact that this course, or parts of it, turn me off. I try to find my own reasons for learning the materials.

_____ 14. Academic success in Cégep is mostly due to being born "intelligent."

_____ 15. I have contacted the counsellor to talk about my study skills and learning strategies in the belief she could help me do better in this course.

_____ 16. I have contacted Ms. Nathalie Bertrand for help with my study skills and learning strategies in the belief she could help me do better in this course.

_____ 17. I have talked with the teacher about the study skills and learning strategies in the belief he could help me do better in this course.

_____ 18. I have not felt the need to investigate new study skills or learning strategies since the ones I am using for this course are working just fine.

_____ 19. If I am not motivated for this course I do not see how study skills and learning strategies can help me do better in this course.

Appendix 2: Worksheet given to students who attend the quiz review workshops.

Thank you for taking the time and effort to attend this Quiz Review and Workshop. Follow these directions for an efficient review process:

1. Pick up your answer sheet and a copy of the questionnaire.

2. Read through each item that you got marked wrong.

3. As you read the question and then consider the correct answer ask yourself what you could have done that led to the incorrect answer. Suggestions are given below to guide you.

4. If you don't "see" why the answer is the way it is, then *circle on your answer sheet* the question number for that item. Continue reviewing the test.

5.When you have *completely reviewed the test*, consult the master answer sheet that has been taped to the front board. You will find on it the page numbers which relate to the material in the test question(s).

6. Copy on your answer sheet the page numbers for the items that you have circled on your answer sheet.

7. Return to your work area and look up the answers. If you have not brought your textbook you may share my copy of the textbook on the desk. If after reviewing the materials *for all of the questions you got wrong*, you still don't understand why the answer is the way it is, then approach the teacher and ask for help. If there are too many questions, then perhaps an appointment will be necessary.

Further suggestions for Item 3:
3.1 Try to see what type of **processing** error you made. There are many types, but the ones given below occur most often.

3.11 Perhaps it was carelessness (you meant to mark "A" but you somehow got distracted and marked "B"; or you put two answers on the same line etc.)

3.12 Perhaps you didn't read the question entirely. That is, you let some part of the question lead you into thinking: "Aha! I know the answer to this!" And yet, another part of the question gave important directions that you ignored. For example, the second half of the question asked for the *least* important and you put down the *most* important because you *expected* to answer the question in this direction.

3.13 Perhaps you only read the choices offered until you ran across the answer that coincided with what you thought was the answer. Not having read the other answer(s), you didn't see that a better answer was possible. You will find, as you go on, that many answers in a multiple choice are acceptable but, given the information in the question, only one is correct. This is also true when you try to look up an answer in the book for a question you aren't too sure about. You take the first answer you run across without finishing to read the paragraph in which you find an answer.

3.2 Common errors of **preparation**

3.21 You find that you got many wrong answers given the fact that you thought you "really" had prepared for this quiz. This is usually a symptom of *passive* rather than *active participation*. You will need to talk to the Guidance counsellor, your teachers, or read up in the library in books on study skills to learn more about how to make this change from passive to active involvement. The most current technique is called SQ3R and it is described in your student handbook. The guidance counsellor and teachers are usually familiar with the SQ3R or the more recent SQ4R.

3.22 Cognitive psychologists have shown (see state dependent memory) that when you do your studying and the emotional state you are in may influence how well you store information. Few students know that the more similar the situation under which you learn to the situation in which you will be tested, the *easier* will be the recall of the stored information. For example if you are too relaxed when doing your studying, just as being too tired, the results on recall are likely to be the same since neither of these states is comparable to the state you are in when you write your tests. So, *moderate* levels of anxiety are usually necessary for efficient learning. For example, students who think that because the tests are partly open-book they will be "easy" usually experience little anxiety for preparation and much anxiety during the test. The result is disastrous.

3.3 Common errors in **reviewing**

3.31 Many students take fair to good lecture notes. The problem is they usually don't make that last effort to re-write them, and in the process review them! The same is true for tests. Make a note of the materials you got wrong. This is the material you should review for the final exam!

3.32 Try to notice what type of question you get wrong. If, for example, you get definition type questions wrong you ought to ask yourself about your vocabulary skills and how you should improve them. Do you look up the word or wait to have it become clearer (hopefully) as your read on? Look up the word! Believe me, your motivation to avoid looking up words will suddenly help your memory to improve!

There are many other suggestions available to you. Consult these sources in your Resource Center. You will find the effort most rewarding. I have read them, used them with success with students, and we highly recommend them. We suggest you begin with Fraser.

Bogue,C. (1988) Studying the Content Areas Clearwater,Florida: H&H Publishing Co.,Inc. ASK FOR "KIT 371.3, B675"

Fleet,J., F.Goodchild and R.Zajchowski (1990) Learning for Success: Skills and Strategies for Canadian Students Toronto: HBJ. (You may buy a copy from the Counselling Services).

Geoffrion,S. (1993) Get Smart Fast: A Handbook for Academic Success Saratoga,California: R & E Publishers. The CALL # is: 371.302812/6344/1993

Fraser,L. (1993) Making Your Mark ,3rd ed. LDF Publishing 16151 Old Simcoe Road, Por. Perry, Ontario L9L 1P2.